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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/725,980

12/01/2003

Radoslav Danilak

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4928

7590

05/15/2006

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EXAMINER

LEE, CHUN KUAN

ART UNIT

PAPER NUMBER

2181

DATE MAILED: 05/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/725,980	Applicant(s) DANILAK, RADOSLAV	
	Examiner Chun-Kuan (Mike) Lee	Art Unit 2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

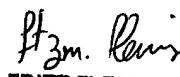
- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____


FRITZ FLEMING
 Supervisory PRIMARY EXAMINER 9/10/2006
 GROUP 2100
 FU 2181

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 01/31/2006 have been fully considered but they are not persuasive. Claims 1-20 are currently pending for examination.

2. In responding to applicant's argument that appears to be directing towards independent claims 1, 9 and 14 regarding the claimed invention comprising the "enabling the disk controller to hide the start up latency of the disk drive," on page 8, 3rd paragraph. Applicant's argument has fully been considered, but is not found to be persuasive.

The argued limitation regarding the "enabling the disk controller to hide the start up latency of the disk drive" is not recited in the independent claims 1, 9 and 14, and furthermore, even though said argued limitation appears to be recited in the dependent claims 6, 12 and 18, the scope of the limitation does not match, as the claimed limitation for the dependent claims 6, 12 and 18 recited "to reduce" while said argued limitation recited "to hide."

3. In responding to applicant's argument directed towards independent claims 1, 9 and 14 rejected under 35 U.S.C. § 103 that Schmidt does not appear to be directed in any particular fashion to the transfer of data through hard drive protocols, disk controller communication procedures, or the like and that Schmidt's teaching appears to have nothing to do with disk transaction or the preparation of disk transaction information, on

page 9, 1st paragraph. Applicant's argument has been fully considered, but is not found to be persuasive.

Schmidt teaches a computer communication system (Fig. 2, ref. 100) comprising the storage device (Fig. 2, ref. 195), wherein said storage device comprises a hard drive having one or more operating system (OS), device drivers and other applications (col. 8, ll. 36-52). Therefore, in order for the computer communication system to be operational, the data comprising the OS, the device drives and other applications in the hard drive must be transferred to the processor, wherein the transfer of data from the hard drive must be implemented conforming to the hard drive protocol, therefore would require to properly package the data to be transferred in the data structure conforming to said hard disk protocol, wherein said requirement to properly package the data to be transferred is similar to the packaging of data to be transferred between the software modem and the central station, as data are transferred to the protocol layer (Fig. 1, ref 80) then to the physical layer (Fig. 1, ref. 70) and finally to the central system (Fig. 1)

4. In responding to the applicant's argument directed towards independent claims 1, 9 and 14 rejected under 35 U.S.C. § 103 that there is no description within Chisholm of the transfer of a command to cause the startup of a disk drive coupled to the disk controller and the subsequent implementation of a disk I/O from the disk controller, on page 10, lines 1-3. Applicant's argument has fully been considered, but is not found to be persuasive.

Chisholm teaches a computer system (Fig. 1) comprising the transferring of the command blocks (Fig. 3, ref. 301) from the host processing side (Fig. 3, ref. 110) to the local processing side (Fig. 3, ref. 120), wherein the local processing side comprises the storage device (Fig. 1, ref. 114), wherein prior to the transferring the command blocks, a command transfer start signal is transferred to cause the startup of the storage drive (Fig. 1, ref. 114) coupled to the local interface controller (Fig. 1, ref. 113) as the command blocks commence to be transferred into the local memory associated to the storage device (col. 5, ll. 23-58), wherein it is well known to one skilled in the art that commands comprising the read command and the write command are issued by the processor to the storage device, therefore it would be obvious that the command blocks comprises the read command and the write command, and the local interface controller would receive and use the command block to control the storage device (col. 2, ll. 19-45).

5. In responding to applicant's argument directed towards independent claims 1, 9 and 14 rejected under 35 U.S.C. § 103 that there is no description within Chisholm of the hiding of the start up latency of the disk drive, on page 10, lines 8-9. Applicant's argument has fully been considered but is found not to be persuasive.

The claimed limitations recited in the independent claims 1, 9 and 14 does not address "to hide the start up latency of the disk drive," and please further note that said claimed limitation appears to be addressed in the dependent claims 6, 12 and 18, but there appears to be a mismatch between the recited claimed limitation in the dependent

claims 6, 12 and 18, comprising "to reduce," and the limitation recited in the argument, comprising "to hide." Further more, Chisholm's invention intended to reduce the overhead associated with the transferring of the command blocks and assign the interrupt associated with the command blocks with the highest priority (col. 2, ll. 36-48), as a result, the start up latency of the storage drive would be reduced.

6. In responding to applicant's argument that there is no motivation to combine a host processor-local processor transfer scheme of Chisholm with a software controlled modem of Schmidt to obtain functionality of the claimed invention, on page 10, 2nd paragraph. Applicant's argument has fully been considered, but is found not to be persuasive.

In Schmidt's computer communication system, the storage device stores the necessary data that the processor is required to access, wherein the necessary data comprises of OS, device drivers and other applications (Schmidt, col. 8, ll. 36-52), and further more, Chisholm specifically teaches that data comprising the OS would be loaded into the host memory to be executed by the processor (Chisholm, col. 3, l. 49-67). By combining Chisholm with Schmidt, the start up for transfer of data can be quicker as the transfer of the command blocks from the host processing side to the local processing side is more efficient (Chisholm, col. 2, ll. 36-51). Upon responding to all of applicant's arguments in detail above, the examiner reiterates his rejections of claims 1-20 in detail below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al. (US Patent 6,842,803) in view of Chisholm et al. (US Patent 5,968,143).

8. As per claims 1 and 14, Schmidt teaches a computer system method (Figure 2), comprising of:

a processor (reference number 105, Figure 2);

a system memory coupled to the processor (reference number 115, Figure 2);

a (north) bridge component coupled to the processor (reference number 110, Figure 2);

a storage device (reference number 195, Figure 2) coupled to the (south) bridge component (reference number 130, Figure 2); and

preparing data (disk) transaction information by packaging a plurality of data structures comprising the data (disk) transaction (reference numbers 70, 80, Figure 1).

Schmidt fails to teach specifically a disk controller coupled to the bridge component for controlling said storage device, wherein said disk controller included a plurality of bypass registers;

transferring a command from the processor to the disk controller, the command causing a start up of a disk drive coupled to the disk controller;

transferring the disk transaction information to the bypass register of the disk controller; and

implementing a disk I/O, wherein the disk controller processes the disk transaction information to control the disk drive.

Chisholm teaches a computer system method comprising of:

a (disk) controller coupled to the bridge component for controlling the storage device (disk drive) (reference numbers 111, 113, 114, Figure 1), wherein said (disk) controller included a plurality of (bypass) registers (reference number 203, Figure 3);

transferring a command (block) from the processor to the (disk) controller (reference number 304, Figure 3), the command obviously will cause a start up of the storage device (a disk drive) coupled to the (disk) controller;

transferring the command block (disk transaction information) to the (bypass) register of the (disk) controller (reference numbers 203, 304, 307, 309, Figure 3); and

obviously implement a (disk) I/O, wherein the (disk) controller processes the command block (disk transaction information) to control the storage (disk) drive.

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to respectively implement the transfer of command block to and the control of Chisholm's controller and storage device into Schmidt's computer system method. Doing so add and further expand Schmidt's computer system method by reducing the overhead and therefore the latency associated with the transferring of

command blocks from the processor to the controller (Chisholm, column 2, lines 19-51 and column 9, lines 53-59).

9. As per claim 2, please see claim 1 in view of Schmidt and Chisholm.

Chisholm further teaches the computer system method comprising of:

preparing the command blocks (disk transaction information) by using the processor of the computer system (column 5, lines 23-27); and

transferring the command block (disk transaction information) from the processor to the (disk) controller (column 5, lines 34-67 and column 6, lines 1-8).

10. As per claim 3, please see claims 1-2 in view of Schmidt and Chisholm.

Chisholm further teaches accessing a bus coupled to the (disk) controller to transfer the control block (disk transaction information) from the processor to the disk controller (reference number 130, Figure 3).

11. As per claim 4, please see claims 1-3 in view of Schmidt and Chisholm.

Chisholm further teaches accessing of the (north and south) bridge component controlling the bus coupled to the storage device (disk controller) (reference number 111, Figure 1); and

transferring the command block (disk transaction information) from the processor to the (disk) controller via the bridge component (Figure 3).

12. As per claim 5, please see claims 1-4 in view of Schmidt and Chisholm. Schmidt further teaches the bridge component is a South bridge of the computer system (reference number 130, Figure 2).

13. As per claims 6-8, please see claim 1 in view of Schmidt and Chisholm.

Chisholm further teaches the computer system method comprising:

wherein the transferring of the command block to the (disk) controller, obviously cause the start up of the storage device (disk drive), is configure to reduce latency for data transfer between the processor and the storage device (column 2, lines 19-51 and column 9, lines 53-59), therefore would obvious reduce a start up latency of the storage device (disk drive);

wherein the command block (disk transaction information) includes a plurality of PRD (physical region descriptor) data structures (reference number 311, Figure 3) and a plurality of command blocks (CPB (command parameter block) data structure) for implementing the disk transaction (reference number 304, Figure 3); and

Schmidt further teaches the computer system method comprising the storage device (disk drive) is compatible with a version of the ATA standard (column 7, lines 1-4).

14. As per claims 9-13, please see claims 1-8 in view of Schmidt and Chisholm.

Schmidt further teaches accessing a North bridge to transfer the data (disk transaction information) (reference number 110, Figure 2); and

transferring the data (disk transaction information) from the processor to the storage device (disk controller) via the North bridge and the South bridge of the computer system (reference number 110, 130, Figure 2).

15. As per claim 15, please see claims 1-14 in view of Schmidt and Chisholm.

16. As per claim 16, it would be obvious to integrate the disk controller into the bridge component in order to reduce cost and size.

17. As per claims 17-20, please see claims 1-14 in view of Schmidt and Chisholm.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz M. Fleming can be reached on (571) 272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.K.L
05/09/2006

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A42181